USGS science for a changing world

Earthquake Shaking **Green Alert**

GSN USAID FROM THE AMERICAN PEOPLE ANSS

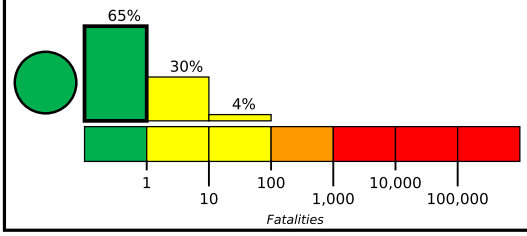
# M 6.1, 1 km S of Lian, Philippines

Origin Time: 2022-05-21 21:50:48 UTC (Sun 05:50:48 local)
Location: 14.0187° N 120.6494° E Depth: 129.0 km

**PAGER Version 5**

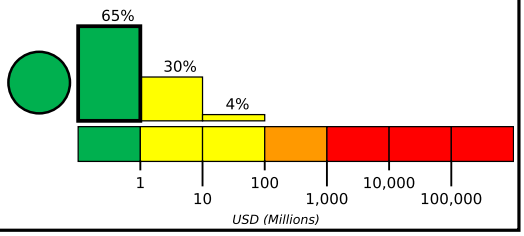
Created: 2 weeks, 3 days after earthquake

## Estimated Fatalities




Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

## Estimated Economic Losses

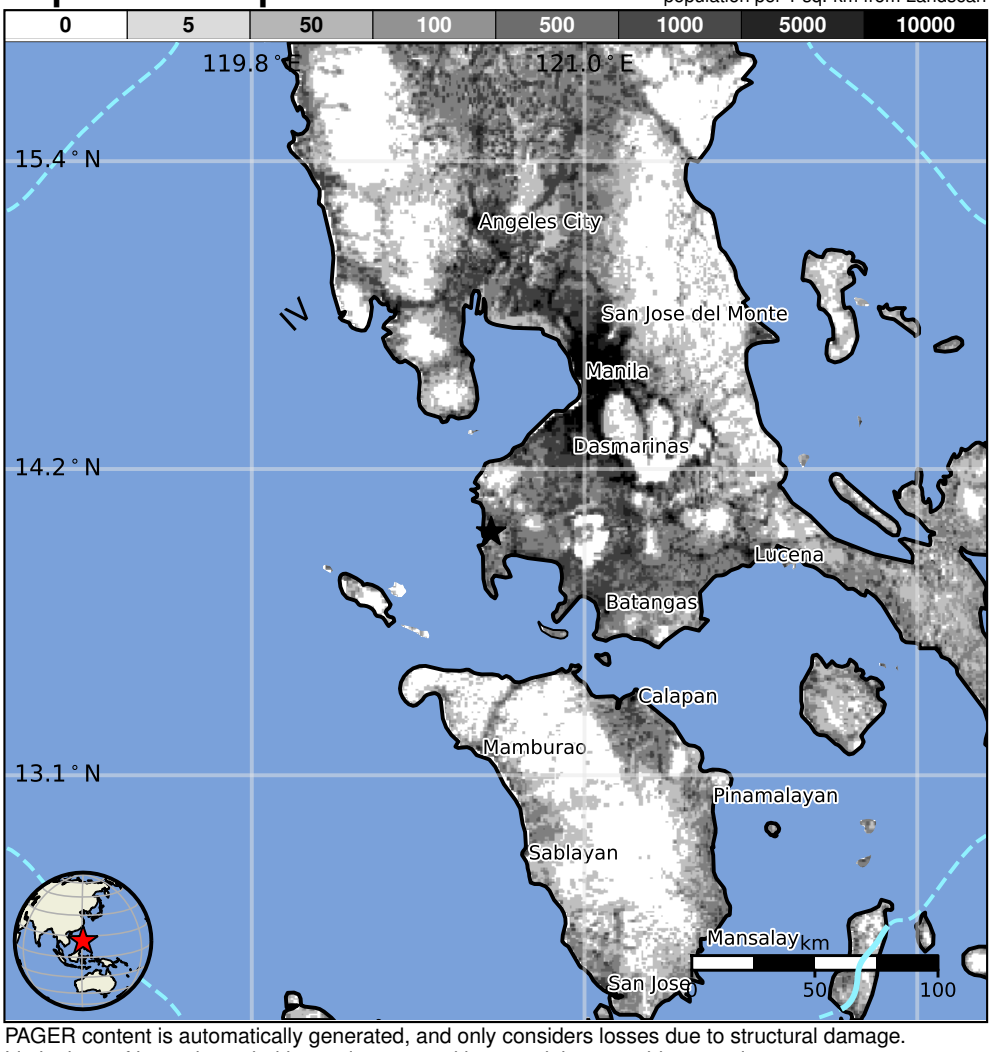



## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 69k* | 44,444k | 355k | 0 | 0 | 0 | 0 | 0 |
| ESTIMATED MODIFIED MERCALLI INTENSITY | | I | II-III | IV | V | VI | VII | VIII | IX | X+ |
| PERCEIVED SHAKING | | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

## Population Exposure




### Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are unknown/miscellaneous types and heavy wood frame construction.

### Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 1977-03-18 | 349 | 7.2 | VII(520k) | 1 |
| 1999-12-11 | 215 | 7.2 | VIII(17k) | 1 |
| 1990-07-16 | 197 | 7.7 | IX(893k) | 2k |

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

### Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| V | Nasugbu | 63k |
| V | Lumbangan | 7k |
| V | Lian | 7k |
| V | Luntal | 3k |
| V | Bilaran | 5k |
| V | San Diego | 3k |
| IV | Calamba | 317k |
| **IV** | **Manila** | **1,600k** |
| IV | Quezon City | 2,762k |
| **IV** | **Calapan** | **66k** |
| IV | San Fernando | 251k |

bold cities appear on map. (k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

**https://earthquake.usgs.gov/earthquakes/eventpage/us6000hmz8#pager**

**Event ID: us6000hmz8**